

Patent 5,625,259 to Holber et al (“Holber”). The office action states that Holber teaches a discharge tube made of sapphire and that Okamoto in view of Ahonen in further view of Holber teach the remaining elements. The applicant respectfully asserts that there is no motivation to combine Holber with either Okamoto or Ahonen. To establish a *prima facie* case of obviousness, the Patent and Trademark Office must demonstrate by substantial evidence that the prior art relied upon, coupled with the knowledge generally available in the art that the time of the invention, contains some suggestion or incentive that would have motivated an ordinarily skilled person to modify the subject matter of a reference or combine the subject matters of the references to achieve the claimed subject matter. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). M.P.E.P. 2143.01 instructs that “Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.”

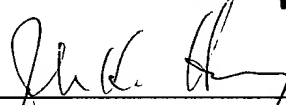
Holber would not logically be combined with Ahonen. The device disclosed in Ahonen has no discharge tube. Ahonen discloses a chamber with external generator coils. In Ahonen, the fan is positioned to cool the external generator coils, which are made of copper. The background section states that prior art generator coils were cooled by internal water means. Therefore, one of ordinary skill in the art would not look to Ahonen to solve the problem of cooling a discharge tube. “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).” See M.P.E.P., section 2143.01, page 2100-98, Rev. 1, Feb. 2000, 7th Ed (emphasis in the original).

With regard to cooling a sapphire discharge tube, one skilled in the art would not be motivated to combine Holber with Okamoto. Holber actually teaches away from the use of air cooling a sapphire discharge tube. The device of Holber teaches a fluid or liquid cooled plasma applicator and specifically discloses water as an acceptable cooling liquid or fluid. In fact, the specification states that it is a principal object of Holber to utilize water or other desirable microwave absorbing fluids to cool a plasma discharge tube. Combining Holber with Okamoto would be in direct conflict with the object of Holber. Therefore, there is no motivation to combine Hober with a reference that teaches air cooling. Applicants therefore respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103..

Application No.: 09/817,669

Attached hereto is a marked-up version of the changes made to the claims by the current amendment in which added text is underlined and deleted text is in parenthesis and a clean version of the pending claims. The attached pages are captioned "Version with markings to show changes made" and "Pending Claims."

Respectfully submitted, ✓



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VERSION WITH MARKINGS TO SHOW CHANGES MADE ✓

In the Claims:

Claims 6 and 16 have been canceled.

Claims 1, 7, 8, 9, 13, 17 and 18 have been amended as follows:

1. (once amended) An air cooled gas discharge detector comprising:
a sapphire gas discharge tube having an outer surface;
an air passageway in contact with at least a portion of the outer surface of the gas discharge tube;
an entry aperture for introducing air into the air passageway;
an exit aperture for allowing air to flow out of the air passageway; and
an air source for supplying a flow of air into the entry aperture for cooling the outer surface of the gas discharge tube.
7. (once amended) The detector of claim [6] 5 wherein the air source is an on board air pump.
8. (once amended) The detector of claim [6] 5 wherein the air source is a central compressor.
9. (once amended) A method of cooling a gas discharge tube in a gas discharge detector comprising:
providing a sapphire gas discharge tube having an outer surface; and
passing a flow of air over at least a portion of the outer surface of the gas discharge tube.
13. (once amended) A gas discharge detector comprising:
a sapphire gas discharge tube;
a power source for providing energy to the gas discharge tube; and
an apparatus for air cooling the gas discharge tube.
17. (once amended) The detector of claim [16] 15 wherein the apparatus for air cooling the gas discharge tube includes an on board air pump.
18. (once amended) The detector of claim [16] 15 wherein the apparatus for air cooling the gas discharge tube includes a central compressor.